

SCHEME OF TEACHING AND EXAMINATION
M.TECH. THERMAL POWER ENGINEERING (MTP)

I SEMESTER

| Sub Code | Name of the Subject | Teaching hours / week | | Duration of Exam in hours | Marks for | | Total Marks |
|--------------|---|-----------------------|----------------------------------|---------------------------|------------|------------|-------------|
| | | Lecturers | Practical/ Field work/Assignment | | IA | Exam | |
| 08MTP 11 | Applied Mathematics | 04 | 02 | 03 | 50 | 100 | 150 |
| 08 MTP 12 | Finite Element Method | 04 | 02 | 03 | 50 | 100 | 150 |
| 08 MTP 13 | Advanced Fluid Mechanics | 04 | 02 | 03 | 50 | 100 | 150 |
| 08MTP 14 | Thermodynamics & Combustion Engineering | 04 | 02 | 03 | 50 | 100 | 150 |
| 08 MTP15x | Elective - I | 04 | 02 | 03 | 50 | 100 | 150 |
| 08 MTP 16 | Seminar | - | 03 | - | 50 | - | 50 |
| Total | | 20 | 13 | 15 | 300 | 500 | 800 |

ELECTIVE – I

| | |
|------------|------------------------------------|
| 08 MTP 151 | Non Conventional Energy System |
| 08 MTP 152 | Nuclear Energy Conversion |
| 08 MTP 153 | Energy Conservation and Management |

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II SEMESTER

| Sub. Code | Name of the Subject | Teaching hours / week | | Duration of Exam in hours | Marks for | | Total Marks |
|--------------|--------------------------------------|-----------------------|-----------------------------------|---------------------------|------------|------------|-------------|
| | | Lectures | Practical/ Field work/ Assignment | | IA | Exam | |
| 08 MTP 21 | Advanced Heat Transfer | 4 | 2 | 3 | 50 | 100 | 150 |
| 08 MTP 22 | Steam & Gas Turbines | 4 | 2 | 3 | 50 | 100 | 150 |
| 08 MTP 23 | Advanced Power Plant Cycles | 4 | 2 | 3 | 50 | 100 | 150 |
| 08 MTP 24 | Theory of IC Engines | 4 | 2 | 3 | 50 | 100 | 150 |
| 08 MTP 25x | Elective – II | 4 | 2 | 3 | 50 | 100 | 150 |
| | *Project Phase – I (6 week Duration) | | | | | | |
| 08 MTP 27 | Seminar | - | 3 | - | 50 | - | 50 |
| Total | | 20 | 13 | 15 | 300 | 500 | 800 |

ELECTIVE – II

| | |
|------------|------------------------------------|
| 08 MTP 251 | Refrigeration and Air Conditioning |
| 08 MTP 252 | Thermal Power Station - I |
| 08 MTP 253 | Alternate Fuels for IC Engines |

* Between the II semester and III semester. (After availing vacation of 2 weeks).

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III SEMESTER

| Sub. Code | Name of the Subject | Teaching hours / week | | Duration of Exam in hours | Marks for | | Total Marks |
|--------------|--|-----------------------|-----------------------------------|---------------------------|------------|------------|-------------|
| | | Lectures | Practical/ Field work/ Assignment | | IA | Exam | |
| 08 MTP 31 | Design of Heat Transfer Equipments for Thermal Power Plant | 4 | 2 | 3 | 50 | 100 | 150 |
| 08 MTP 32 | Elective – III | 4 | 2 | 3 | 50 | 100 | 150 |
| 08 MTP 33 | Elective – IV | 4 | 2 | 3 | 50 | 100 | 150 |
| | Project Phase – II (5 week Duration) | | | | | | |
| 08 MTP 34 | Seminar on Project Phase – I | - | 3 | - | 50 | - | 50 |
| Total | | 12 | 9 | 9 | 200 | 300 | 500 |

* 3 Days Course work and 3 days for Project work

| ELECTIVE – III | | ELECTIVE – IV | |
|-----------------------|---|----------------------|---|
| 08 MTP 321 | Modeling and Simulation of Thermal Systems | 08 MTP 331 | Engine Flow & Combustion |
| 08 MTP 322 | Computational Methods in Heat Transfer & Fluid Flow | 08 MTP 332 | Design & Analysis of Thermal Systems |
| 08 MTP 323 | Convective Heat and Mass Transfer | 08 MTP 333 | Experimental Methods in Thermal Power Engineering |

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IV SEMESTER

| Sub Code | Name of the Subjects | Teaching hours / week | | Duration of Exam in hours | Marks for | | Total Marks |
|--|---------------------------------------|-----------------------|-----------------------------------|---------------------------|------------|------------|-------------|
| | | Lectures | Practical/ Field work/ Assignment | | IA | Exam | |
| 08MTP41 | Evaluation of Project Phase – II | - | 3 | - | 50 | | 50 |
| 08MTP42 | Evaluation of Project Phase – III | - | 3 | - | 50 | | 50 |
| 08MTP42 | Project work Evaluation and Viva-Voce | | | 3 | | 100+100 | 200 |
| Total | | | 3 | 9 | 100 | 200 | 300 |
| Grand Total (I to IV Semester) : 800 + 800 + 500 + 300 = 2400 | | | | | | | |

Note: Project work shall be continuously evaluated for phase I, phase II and after completion of the project.

- The hours per week shown in the column of Practical / Field work / Assignment are the contract hours for students, no load to be shown to the teachers. The teachers should provide guidance.
- The seminar Marks are to be awarded by the Department committee constituted for the purpose.
- The project evaluation and Viva-Voce will be conducted by a committee consisting of the following.
 - Head of the Department (Chairman)
 - Guide
 - Two examiners, appointed by the university (out of two external examiners at least one should be present).

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